

Distribution and breeding notes on the birds of the central frontier of Rhodesia and Mozambique

by

R. K. Brooke

(P.O. Box 8081, Causeway, Rhodesia.)

SYNOPSIS

The central frontier of Rhodesia and Mozambique is an area which lies at an elevation ranging from 3,000 to 6,000 feet. This paper is based mainly on the collection of birds and eggs made by the late P. A. Sheppard in the Portuguese Vumba during 1913 and 1914. All species he found in this area are listed together with egg clutches and breeding records.

INTRODUCTION

The area dealt with in this paper lies largely at altitudes of from 3000 to 6000 feet above sea level between 17° and 21° S. It is bounded on the west by the Nyangombi, Odzi and Sabi valleys and by the "planalto" of Mozambique on the east. The principal objects of this paper are to report Sheppard's work in the Portuguese Vumba and to detail what is known of the breeding seasons of species largely peculiar to the forests and forest edges of the frontier zone in these latitudes. It is shown that the peak egg-laying month in the evergreen forests is November and not October as it is in Zambia and Malawi. Forest edge species on the whole lay their eggs at the same time as their congeners in the savannas at the same latitudes.

This paper is based primarily upon the material in the Natal Museum collected in 1913 and 1914 by P. A. Sheppard in the Portuguese Vumba 18° 58' S., 32° 54' E. at an average height of 4300 feet above sea level where he was managing an estate for the Mozambique Company. All his specimens and eggs that I have traced are listed under the species headings. Minor portions of his egg material are in the Durban and Transvaal Museums. His field notes have not survived except where they have been quoted or abridged by Priest (1935, 1936). In addition data from the Rhodesian Ornithological Society's nest record card collection have been incorporated particularly since we have received a substantial number of records of the breeding of forest and forest edge birds since Benson, Brooke and Vernon (1964) was drafted. This is largely due to A. N. B. Masterson, D. C. H. Plowes, C. J. Vernon and A. Williams in Rhodesia, T. B. Oatley in Natal and Dr. C. Parkes of the Carnegie Museum, Pittsburgh, U.S.A. who has provided me with data from the material collected by R. Boulton at Mt. Selinda in 1929 (cf. Priest 1935, p. 193). I have also made use of juvenile specimens from the area to provide additional breeding records: the majority of these specimens are in the National Museum, Bulawayo. A. N. B. Masterson has lent me his field notebook from which I have been able to determine which of the species in his Chimanimani paper (1959) were collected in Mozambique.

TABLE 1. SUMMARY OF EVERGREEN FOREST BREEDING RECORDS

	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Total
<i>Turtur tympanistria</i>			1	1	1		2		1		1		7
<i>Aplopelia larvata</i>	1	1					1		1			1	5
<i>Tauraco corythaix</i>				3	2	4	1	1					11
<i>Pogoniulus bilineatus</i>				1									1
<i>Smithornis capensis</i>				2	2	1		1					6
<i>Dicrurus ludwigii</i>		1	3	1									5
<i>Phyllastrephus flavostriatus</i>				1	3	2	2						8
<i>Andropadus milanensis</i>				2	5	3	1		2				13
<i>Turdus olivaceus</i>			1	1	5	2							9
<i>Turdus gurneyi</i>						4	2						6
<i>Cossypha natalensis</i>				3	2	3							8
<i>Pogonocichla stellata</i>		1	1		5		1						8
<i>Pogonocichla swynnertoni</i>				2	7	6	1						16
<i>Phylloscopus ruficapilla</i>						1							1
<i>Apalis thoracica</i>		1		5	8	5	3	1	3	4			30
<i>Muscicapa adusta</i>				1	5	3	1						10
<i>Batis capensis</i>				5	4	2							11
<i>Trochocercus albonotatus</i>				1	4	3	2						10
<i>Malaconotus olivaceus</i>				4	3	4		1		1			13
<i>Malaconotus nigrifrons</i>					2								2
<i>Malaconotus viridis</i>			1		1	1		1					4
<i>Nectarinia olivacea</i>				3	3	1	2		1				10
<i>Anthreptes collaris</i>			2				1				1		4
<i>Ploceus bicolor</i>			3	1	4	2							10
<i>Ploceus ocularis</i>				4	9	6	2	4	2				27
<i>Cryptospiza reichenovii</i>				1									1
<i>Pirenestes minor</i>							1						1
<i>Hypargos nitidula</i>				1									1
<i>Lagonosticta rubricata</i>							1	4	1				6
<i>Estrilda caerulea</i>							1		3				4
Percentage	1	5	12	42	75	53	25	13	14	5	2	1	248
Percentage (Benson 1963)	-	2	5	17	30	21	10	5	6	2	-	-	363
Percentage (Benson 1963)	-	1	9	31	27	14	9	3	6	1	1	-	363

EVERGREEN FOREST BREEDING SEASONS

Table 1 brings together all the breeding records of forest species in the frontier zone: the details will be found under the species concerned. This shows that November is the overall peak month for egg laying. Benson (1963) found that October was the peak egg laying month in Central African forests. Since Benson incorporated what Rhodesian records were available the contrast between north and south of the Zambezi is in fact greater than the figures show and is perhaps due to the cooler climate of the frontier zone. The figures attributed to Benson in my Table 1 are the result of amalgamating his figures for *Tauraco* and *Musophaga* in Table 7 (1963) with the whole of his Table 1: this was done because *Tauraco corythaix* appears in my Table 1. Moreau (1950) is right in saying that the main breeding season is October to January but his suggestion of a partial break in December is due to inadequate data as is shown by the Table.

P. A. SHEPPARD—A BIOGRAPHICAL SKETCH

Sheppard was born in Malaya (Penang) in 1875 and joined the Mozambique Company in 1898 as a plantation manager. There are a number of anonymous clutches of eggs taken in the years 1903-5 in South African museums in the area of operations of the Mozambique Company. I believe that these were the earliest fruits of Sheppard's ornithological collecting.

In 1905 he visited Natal (on holiday?) and collected a number of clutches which are now in the Natal Museum. He then farmed five and a half miles out of Beira from early 1906 till 1908 when he went to Mzimbiti. He reported on his Mzimbiti work in three papers (1909, 1910, 1914) in the Journal of the South African Ornithologists Union and it is on these papers that his fame rests. At Mzimbiti he collected more breeding material than he mentioned in his papers and this I shall deal with in another paper. In 1912 he went to the Portuguese Vumba above Macequece or Vila de Manica as it is now known, to the experimental farm and as stated in the introduction this paper deals with his ornithological work there. In 1916 he moved to Umtali, joined the Rhodesia Railways and became more interested in butterflies than in birds. His bird work virtually ceased by 1918 though he continued to collect clutches for other zoologists throughout the 1920's. His magnificent collection of butterflies is now one of the most prized possessions of the Umtali Museum. He died in Salisbury in 1958.

The relationship between Sheppard and Priest deserves comment albeit both are dead and the evidence is the material discussed in this paper as read with the extracts and epitomes in Priest's Birds of Southern Rhodesia vols. III and IV (16, 17). The locality cited is usually Umtali, occasionally the Vumba (implicitly the major part which lies in Rhodesia) whereas the material shows that the references are to the Portuguese Vumba. The quotations from Sheppard imply the immediate past (say 1930) since Priest's volumes were completed in 1934 and 1935, yet the material shows that 1913 and 1914 are meant. A number of interesting species recorded by Sheppard are not mentioned e.g. the two *Sarothrura* species, *Cisticola cantans*, *C. brachyptera*. In respect of *Sarothrura* since Sheppard is never mentioned in the first two volumes I believe that Priest did not then know of his existence. In the case of *Cisticola* since Priest does not include either species in his work, I conclude that having made Sheppard's acquaintance he asked for notes on selected species. Apparently Sheppard never mentioned to Priest that he had contributed material to the Natal Museum since Priest neither mentions it nor, apparently, consulted the mass of data he could have used so profitably.

THE LATE RAINS OF 1913

A number of species laid eggs far later than usual in 1913. Through the courtesy of the Director of Meteorology I have examined the rainfall records for Umtali, the nearest recording station to the Vumba. The Portuguese end of the Vumba is the first montane area in that sector and undoubtedly obtains a substantial share of the rain and cloud as it comes in from the Indian Ocean. However, Umtali some 10 miles due west is not sufficiently screened by the Vumba to lie in a rain shadow and in fact obtains a lesser but still substantial rainfall. Its rainfall figures are thus a significant guide to conditions in the Vumba. Records of rainfall were first kept in 1912. 1913 is the only year to date in which ten or more days in each of the months April, May and June had falls of rain (April 19 days, May 12 days, June 11 days). Conditions remained moist and the grass and herbage continued to grow. Consequently those species who place their nests in growing grass and herbage continued to breed. This shows that even the birds of the forest verge have that capacity, so widespread in a continent of uncertain rainfall, to breed whenever conditions are suitable.

This is in marked contrast to the position inside the forest where the highly equable conditions have not led to scattered breeding throughout the year or a large part of it but a clearly defined season for most species with its peak in November. Moreau (1950) points out that this clearly defined season applies in forest to within three degrees of the equator but no explanation is yet forthcoming. We are fortunate that Sheppard did his most intensive collecting in so interesting and unusual a season. The species whose breeding was prolonged are—

Sarothrura rufa
Sphenoeacus afer
Apalis thoracica
Euplectes ardens

Cisticola cantans
Prinia subflava
Ploceus ocularis

MISCELLANEOUS

Sheppard usually shot birds on the nest and it was comparatively unusual for him to shoot vagrants and migrants. However on 1st March 1913 he shot a *Falco subbuteo*, three *Merops apiaster* and four *M. nubicoides*. I conclude that there was an emergence of winged termites on that day which attracted birds from far and wide to the feast.

A consequence of clarifying the geography of Sheppard's work is that the type locality of the taxon *Tchagra minuta remota* Clancey (1959) must be shown as Vumba, Mozambique, not Vumba, Rhodesia.

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LIST OF SPECIES

The species discussed are placed in Wetmore's order: the scientific nomenclature is that of Smithers, Irwin and Paterson (1957) except where otherwise noted. All references have been numbered serially so that the serial numbers can be used where it is inconvenient and space wasting to cite literature in full. Literary references to breeding in the frontier zone are dealt with in this way at the bottom of each species for which a breeding table is provided. The word "eggs" followed by a date is used for clutches that have been transferred from the study to exhibition collection in the Natal Museum.

The following abbreviations are used:—

Br.	..	..	..	..	..	..	Breeding
c/	..	..	..	..	..	..	Clutch of
imm.	..	..	..	..	..	..	Immature
juv.	..	..	..	..	..	..	Juvenile
N.M.B.	..	..	..	..	..	..	National Museum, Bulawayo
Port.	..	..	..	..	..	..	Portuguese
Ref.	..	..	..	..	..	..	References

Accipitridae

Aquila verreauxi Lesson

Black Eagle

Serle (1955) is the first author to note the occurrence of this species in the frontier zone. It may be seen regularly at Inyanga (Snell, 1963) where it breeds at one site. There was a nest on the kopje overlooking the Umtali showgrounds which was destroyed by vandals in 1964. It is, however, sparse in the frontier zone due to the poverty of precipices on which to breed and hunt dassies *Procavia* and *Dendrohyrax* spp. Its sparseness in north-eastern Mashonaland is very curious for this is a country of precipitous granite hills with dassies. The very similar Matopo Hills in Matabeleland support the densest known population of Black Eagles in the world. There is no competitor in Mashonaland but there are almost certainly fewer dassies. As far as I am aware no census work on dassies has been carried out.

Aquila wahlbergi Sundevall

Wahlberg's Eagle

Portuguese Vumba: ♂ shot on a nest containing c/1 on 10 Nov. 1913 and the ♀ the next day.

This species is a breeding summer migrant to south and central Africa from the northern savannas arriving in mid August and leaving in early April with just a few birds spending the winter here. This matter is not mentioned in the standard works, such as McLachlan and Liversidge (1957).

TABLE 2.

	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Malawi		1		1	1		1	1	2			
Zambia	1			2	1	1		3	3			
Rhodesia		1	4	2	2	3	4	1	1	1		
Bechuanaland					1	1				1		
Transvaal				4			2	4	1			
Zululand			1		2							
Cape		1										
South West Africa ..				1		1			1		1	
	1	3	5	10	7	6	7	9	8	2	1	—

Distribution of specimens of *Aquila wahlbergi* by countries and months.

In Table 2 the specimens in the N.M.B. and Transvaal Museum taken in south and central Africa are grouped by countries and months. This shows the migratory pattern very clearly. The Spring dates and localities are—

18 Aug. 1942. Fort Johnson, Malawi.

19 Aug. 1937. Klipfontein, Cape.

21 Aug. 1958. Holdenby, Rhodesia.

The Autumn dates and localities are—

6 April 1956. Inyati, Rhodesia.

9 April 1950. Gwampa, Rhodesia.

The winter dates and localities are—

10 May 1935. Assab, S.W.A.

6 July 1943. Balovale, Zambia.

I have once seen Wahlberg's Eagle in winter, in July near Salisbury. O. P. M. Prozesky in a letter giving details of the skins in the Transvaal Museum tells me that he has seen occasional birds in the Kruger National Park in June and July. A. J. Tree (*in litt.*) has the following Zambian sight records: April 4, May 1, June 1, July 2, August 4. He makes the further point that he has seen no wintering birds since 1960 and wonders whether the species now winters here less often than formerly. If so it might explain in part why the migratory tendencies of so large and common a bird have been overlooked for so long. Winterbottom (1959) seldom saw it in Zambia in winter during the period 1930-1951.

His figures are: April 1, May 5, June 4, July 3, August 2.

Lynes (1925) and Tree (1959) have mentioned the migratory tendencies of Wahlberg's Eagle. Dr. Jean Dorst tells me it is only common in French West Africa in the months May, June and July and that no nesting has ever been recorded. Bannerman (Birds of Tropical West Africa Vol. 1 and 8) confirms the latter point. From my field notes I find that I last saw the species around Salisbury on 5 April 1964 and that it had returned by 23 Aug. in 1964 and by 18 Aug. in 1963. Its migratory behaviour is a partial explanation why its breeding season in central Africa is August to November (3) with a peak in September instead of breeding in mid-winter when the other members of the genus *Aquila* do. A fuller explanation should be sought in its feeding habits.

Lophaetus occipitalis (Daudin)

Long-crested Eagle

Port. Vumba: ♂ 2 April 1914, ♀ 14 Sept. 1914 on c/1. Seen on the Portuguese slopes of the Chimanimani (12).

Buteo rufofuscus (Forster)

Augur Buzzard

Port. Vumba: ♂ 20 May 1914, ♀ on c/2 8 Sept. 1914.

Accipiter badius (Gmelin)

Little Banded Goshawk

Port. Vumba: imm ♀ 26 May 1914.

Accipiter tachiro (Daudin)

African Goshawk

Port. Vumba: imm. ♀ 26 June 1914. As noted by Swynnerton (1908b) this is the only hawk to occur regularly in forest.

Falconidae

Falco subbuteo Linnaeus

European Hobby

Port. Vumba: ♀ 1 March 1914. Despite the label, C. W. Benson and I are quite certain that the specimen is an example of the Palaearctic species and not of the Ethiopian *F. cuvierii*.

Phasianidae

Francolinus afer (Muller)

Red-necked Francolin

Port. Vumba: c/4 15 April 1913 and a fresh egg on 28 May 1914.

Br.: July 1, Aug. 1, Dec. 3, Jan. 1, April 2, May 1.

Ref. 18, 29, 32.

Rallidae

Sarothrura elegans (A. Smith)

Buff-spotted Flufftail

Port. Vumba: ♀ trapped on eggs 6 Sept. 1913. The wing measures 93 mm. This is the first breeding record from the frontier zone.

Sarothrura rufa (Vieillot)

Red-chested Flufftail

Port. Vumba: ♀ trapped on eggs 5 May 1913. The wing measures 78 mm. This is the first record from the frontier zone (22) and an extension of season for Central Africa (3).

Sarothrura affinis (A. Smith)

Chestnut-tailed Flufftail

The only breeding record (January) is in (12).

Columbidae

Columba arquatrix Temminck & Knip

Rameron Pigeon

Two nests each containing a single egg were found in March in *Pinus patula* in plantations at Stapleford Forest by A. Williams. These are the first breeding records for Rhodesia.

Turtur tympanistria (Temminck & Knip)

Tambourine Dove

Port. Vumba: an unsexed bird on c/1 18 Oct. 1914, c/2 7 Nov. 1914. In the N.M.B. there is a juv. ♀ with barred breast and wing converts and therefore fledged a month previously taken at Holdenby on 27 Oct. 1960. This species probably breeds throughout the year in view of the data from north of the Zambezi (3).

Br.: Aug. 1, Oct. 1, Nov. 1, Jan. 2, March 1, May 1.

Ref.: 26, 29, 32.

Aplopelia larvata (Temminck & Knip)

Lemon Dove

Swynnerton shot a ♀ with well developed ovaries on 14 June (1908b) and he regarded January as the peak breeding month (1907b). In the N.M.B. there is a newly fledged ♀ juvenile (short wings and very little tail) taken at Melsetter on 24 August 1960. This species probably breeds throughout the year.

Br.: July 1, Aug. 1, Jan. 1, March 1, June 1.

Ref.: 26, 28, 32.

Musophagidae

Tauraco corythaix (Wagler)

Livingstone's Loerie

Port. Vumba: eggs 19 Nov. 1914. Swynnerton (1907b) received a couple of newly fledged youngers in late October and there is a ♂ juv. in the N.M.B. with a short tail and little crest collected in the Port. Chimanimani on 9 Feb. 1958 (12).

Br.: Aug. 1, Oct. 3, Nov. 2, Dec. 4, Jan. 1, Feb. 1.

Ref.: 12, 26, 32. Of these records four are of c/3.

Apodidae

Apus apus (Linnaeus)

European Swift

This migrant from the Palaearctic is found sparsely in Rhodesia, unlike Zambia and South Africa where it may be seen much more frequently. Even so it is more frequently seen in the frontier zone than elsewhere. All Rhodesian specimens I have seen are, I consider, referable to the nominate race and *A.a. pekinensis* has not yet been taken. All the specimens were taken in the months of November, December and January, the period in which my sight records also fall with the exception of one party seen at Salisbury in the first week of February. This by no means common species presumably moves to lands to the south or north of Rhodesia for the latter part of its southern visit.

At Leopard Rock in the Vumba in the first week of January 1965 there were three forms of swift *A.a. apus*, *A.b. barbatus* which was breeding and what I take to be *A. pallidus* but which might be *A.a. pekinensis*. Seen from above they were pale brown and in size a little smaller than *A. barbatus* and not significantly bigger than *A. apus*. Following Meinert-

hagen (1954) and Brooke (1964) it seems that the birds were *A. pallidus* which has not been taken in Rhodesia. In any case it shows the need for further collecting of swifts before we can be reasonably sure of their distribution and movements.

Apus barbatus (P. Sclater)

Black Swift

Collected on the Port. Chimanimani (12). The common breeding swift of the precipitous overhangs of the frontier zone to which area it is largely restricted in Rhodesia. The only breeding sites of which I have personal experience away from the frontier are at Sebakwe Poort near Que Que and the Victoria Falls gorges (1964b). I am very doubtful of my record from near Marandellas (1964b) which I believe now to have been *A. aequatorialis* as C. J. Vernon said to me at the time.

At World's View, Inyanga, on 27 Oct. 1963 R. Boulton, myself and others observed Black Swifts visiting their nesting sites in vertical cracks in an overhanging cliff and copulating there. Towards the end of the act they would let go of the nest, float down conjoined and separate a few yards below. One pair failed to separate and landed in the vegetation at our feet. They made little attempt to escape and we caught them easily, examined and released them since specimens now in the N.M.B. have already been collected at this site.

Apus aequatorialis (V. Muller)

Mottled Swift

This is the common breeding swift of the granite hill country of Mashonaland and Matabeleland which has not been seen or obtained in the frontier zone other than the solitary bird obtained by Irwin (1955) on Mt. Inyangani in February. It has now been obtained at Birchenough Bridge on the Sabi R. (now in N.M.B.) and I have seen it on the Odzi R. In these cases I believe the parties to have been feeding to the east of their breeding and roosting colonies. It would appear that *A. barbatus* and *A. aequatorialis* are for the most part mutually exclusive in Rhodesia. *A. b. barbatus* occurring on the eastern frontier and at Sebakwe Poort whereas *A. aequatorialis* occurs throughout the granite hill country. There are no granite hills anywhere near Sebakwe Poort. *A. b. hollidayi* is confined to the Victoria Falls gorges and there are no granite hills anywhere near there. I am now very sceptical of Brain and Masterson's record of the two species breeding together near Salisbury (Brooke, 1964b): I have visited the site several times and never seen *A. barbatus* there. It may well be that a wandering party of *A. apus* was showing the typical swift interspecific gregariousness. In addition to the records in (4) I have found breeding colonies of *A. aequatorialis* in the Mangwende Reserve between Marandellas and Mrewa and on the Lundi R. where the Fort Victoria—South Africa road crosses it. This is the furthest south it has yet been found. The coordinates are 20° 53' S., 30° 47' E. See also (26) and (28).

Apus myoptilus (Salvadori)

Scarce Swift

Collected on the Port. Chimanimani (12). C. J. Vernon found the species breeding in December at the Bridal Veil Falls, Melsetter. Also breeds in January at the Mtarazi Falls, Inyanga.

Apus horus (Heuglin)

Horus Swift

Breeds at Umtali (a brooding parent was inspected on 2 Jan. 1965) and probably widely in the frontier zone. My impression is that it is more often seen there than the White-rumped Swift *A. caffer*. In most parts of Rhodesia the reverse is true.

Apus affinis (J. E. Gray)

Little Swift

Breeds on the same hill as the Black Eagle at Umtali. No other breeding sites known in the frontier zone.

Cypsiurus parvus (Lichtenstein)

Palm Swift

Breeds in exotic palms (usually *Washingtonia*) at Penhalonga, Umtali and Chipinga. It may be found feeding anywhere and it will breed wherever suitable palms occur.

Coliidae

Colius striatus Gmelin

Speckled Mouse-bird

Port. Vumba: (a) Specimens ♂ 31 Oct. 1912, ♂ 5 Feb. 1913, ♀ 17 Feb. 1913 on c/3, unsexed 6 March 1913 on c/2, ♂ 7 Oct. 1913, ♀ 10 Oct. 1913: (b) eggs c/3 5 Feb. 1913 (7), c/3 17 Feb. 1913, c/2 26 Feb. 1913, c/2 6 March 1913, c/3 12 March 1913, eggs 18 March 1913, c/4 22 March 1913 (Salisbury Museum), c/3 7 Sept. 1913, c/3 20 Nov. 1913, c/2 28 Nov. 1913, c/4 17 Oct. 1914, c/3 4 Nov. 1914.

Br.: Aug. 1. Sept. 4, Oct. 4, Nov. 6, Dec. 7, Jan. 3, Feb. 5, March 4.

Ref.: 7, 26, 32.

Alcedinidae

Corythornis picta (Boddaert)

Pygmy Kingfisher

Port. Vumba: eggs collected, no date preserved. In the Umtali Museum there is an imm. bird taken on 23 Feb. 1962 at Umtali. The generic name follows Traylor (Bull. B.O.C. 1960: 144-146).

Meropidae

Merops apiaster Linnaeus

European Bee-eater

Port. Vumba: ♂ ♂, ♀ 1 March 1914: see introduction p. 429.

Merops nubicoides Des Murs & Pucheran

Southern Carmine Bee-eater

Port. Vumba: 4 birds on 1 March 1913 (see introduction p. 429). I prefer to regard this form as specifically distinct from *M. nubicus*, as for instance does Clancey (1964).

Capitonidae

Buccanodon leucotis (Sundevall)

White-eared Barbet

In addition to the rather vague note in Serle (1955) there is one November record (32) from Mt. Selinda.

Pogoniulus bilineatus (Sundevall)

Golden-rumped Tinkerbird

The only breeding record is of a pair apparently feeding young in the nest on 10 Nov. 1963 in the Vumba. The previous year's nest was further up the same dead branch. No new nest had been made by January 1965.

Picidae

Campethera abingoni (A. Smith)

Golden-tailed Woodpecker

Port. Vumba: ♀ on c/2 on 13 Nov. 1914.

Dendropicos fuscescens (Vieillot)

Cardinal Woodpecker

Port. Vumba: ♂ 16 Aug. 1913.

Eurylaimidae

Smithornis capensis (A. Smith)

African Broadbill

There is no material to relate to the quotation from Sheppard in Priest (16, p. 3) but I am inclined to think that the reference to Mr. Middlemis means that the nests were in the Rhodesian and not the Portuguese Vumba to which the great majority of Priest's quotations from Sheppard refer as will appear below.

Br.: Oct. 2, Nov. 2, Dec. 1, Feb. 1.

Ref.: 16, 18, 25, 32.

Alaudidae

Mirafra africana A. Smith

Rufous-naped Lark

♀ shot on the nest (16, p. 15) but I do not know where this specimen is.

Hirundinidae

Hirundo atrocaerulea Sundevall

Blue Swallow

This species seldom occurs as low down as 4300' a.s.l. where Sheppard worked. It is the subject of a paper being prepared by Mrs. M. L. Snell.

Psalidoprocne orientalis Reichenow

Eastern Roughwing

Port. Vumba: ♀ on c/2 18 March 1913 (16 p. 324-5). A bird was seen carrying building material on 10 Nov. 1963 at the Vumba. Collected on the Port. Chimanimani (12).

Br.: Oct. 4, Nov. 2, Dec. 1, Feb. 1, March 3.

Ref.: 16, 32.

Dicruridae

Dicrurus ludwigii (A. Smith)

Square-tailed Drongo

N.M.B. ♂ juv. 13 Nov. 1955, ♂ ♀ juv. with short tails 10 Nov. 1959 all from Holdenby.

Br.: Aug. 1, Sept. 3, Oct 1.

Ref.: 32.

Oriolidae

Oriolus larvatus Lichtenstein

Black-headed Oriole

Port. Vumba: imm. ♂ 1 June 1914.

Corvidae

Corvus albus Muller

Pied Crow

Port. Vumba: ♀ shot (17 p. 120-121). The agricultural data quoted in (17) show that Sheppard's observations on the Pied Crow were made when he was managing an estate belonging to the Mozambique Co. in the Port. Vumba and not when working for the Rhodesia Railways in Umtali.

Timaliidae

Turdoides jardineii (A. Smith)

Arrow-marked Babbler

Port. Vumba: c/3 16 Sept. 1912 and c/3 5 Nov. 1913 (16, p. 66). The latter clutch alone survives.

Campephagidae

Campephaga phoenicea (Latham)

Black Cuckoo-Shrike

Port. Vumba: ♀ 21 Aug. 1913.

Pycnonotidae

Pycnonotus barbatus (Desfontaines)

Black-eyed Bulbul

Port. Vumba: eggs 17 Feb. 1913, c/2 and c/3 3 Oct. 1913, eggs 10 Oct. 1913, c/3 12 Oct. 1913, eggs 31 Oct. 1913, eggs 20 Nov. 1913, c/2 21 Nov. 1913, eggs 24 Nov. 1913, c/3 and c/3 28 Nov. 1913, eggs 17 Dec. 1913, eggs 12 Jan. 1914, eggs 14 Nov. 1914. The clutches found on 3 Oct. and 21 Nov. are blotched rather than spotted which is the usual marking on the eggs of this species.

Phyllastrephus terrestris Swainson

Terrestrial Bulbul

Port. Vumba: c/2 22 Oct. 1913 (Durban Museum), ♂ on c/2 27 Nov. 1913 (16, p. 85) (Transvaal Museum).

Phyllastrephus flavostriatus (Sharpe)

Yellow-streaked Bulbul

Port. Vumba: ♂ 28 Aug. 1913, ♀ on c/1 20 Nov. 1913 (16, p. 88). A bird was carrying building material on 4 Jan. 1965 at the Vumba.

Collected in the Port. Chimanimani (12).

Br.: Oct. 1, Nov. 3, Dec. 2, Jan. 2.

Ref.: 16, 18, 25, 29, 32.

Andropadus milanensis (Shelley)

Stripe-cheeked Bulbul

Port. Vumba: ♂ 22 Aug. 1913, ♀ on c/2 (16, p. 92) 10 Dec. 1913, unsexed on c/2 18 Nov. 1914 (the eggs are in the Transvaal Museum). N.M.B. juv. ♂ with short bill and tail on 10 Jan. 1950 at Melsetter. One was carrying building material at the Vumba on 11 Nov. 1963. Collected on the Port. Chimanimani (12).

Br.: Oct. 2, Nov. 5, Dec. 3, Jan. 1, March 2.

Ref.: 16, 25, 29, 32.

Turdidae

Turdus libonyana (A. Smith)

Kurrichane Thrush

Port. Vumba: c/3 22 Nov. 1913, c/2 11 Oct. 14: both clutches in the Transvaal Museum.

Turdus olivaceus Linnaeus

Olive Thrush

Port. Vumba: ♀ on c/1 22 Nov. 1913, c/2 9 Dec. 1913 (Durban Museum), ♀ on c/1 11 Nov. 1912. The c/2 in Priest (16, p. 145) may well be the clutch in the Durban Museum but the c/3 apparently no longer survives and its date is unknown. In the N.M.B. there is a ♂ juv. with a short tail from the Port. Chimanimani taken on 9 Feb. 1958 (12). In addition there are two other juv. with fully grown tails from Melsetter taken on 11 and

13 Jan. 1950. D. C. H. Plowes (*in litt.*) found a nest being built at the Mtarazi Falls, Inyanga, in Nov. 1963 as well as a nest with eggs and one with young.

Br.: Sept. 1, Oct. 1, Nov. 5, Dec. 2.

Ref.: 16, 18, 32.

Turdus gurneyi Hartlaub

Gurney's Thrush

In the N.M.B. there is a ♂ juv. with short wings and tail but unspotted breast taken in the Chimanimani on 5 Feb. 1958. I have never seen this species and believe that it is normally very unobtrusive.

Br.: Dec. 4, Jan. 2.

Ref.: 1, 32.

Saxicola torquata (Linnaeus)

Stonechat

Port. Vumba: c/4 15 Oct. 1913, ♀ 1 June, 1914, ♀ 27 Aug. 1914, c/3 21 Sept. 1914.

Cossypha heuglini Hartlaub

Heuglin's Robin

Port. Vumba: ♀ on c/1 12 Dec. 1913 (16, p. 175).

Cossypha natalensis A. Smith

Red-capped Robin

Port. Vumba: ♂ 28 Nov. 1913. In the N.M.B. there is a ♂ juv. in spotted plumage with a short bill but a full tail from Umtali taken on 31 Dec. 1947 and a very similar bird from Melsetter on 12 Jan. 1950. Swynnerton (1908a) mentions fledged young in March.

Br.: Oct. 3, Nov. 2, Dec. 3.

Ref.: 32.

Cossypha caffra (Linnaeus)

Cape Robin

Port. Vumba: ♂ ♀ 28 July 1913, ♀ on c/2 1 Nov. 1913 (16, p. 179), an unsexed bird on c/2 15 Nov. 1913 (16, p. 179), eggs 16 Nov. 1913 (16, p. 179) c/2 11 Dec. 1914. There are several juveniles in the N.M.B.: 14 Jan. 1951 ♂ with a short tail Inyanga and a series of five from the Chimanimani both Portuguese and Rhodesian taken on 1 Feb., 5 Feb., and 9 Feb. 1958. These latter all have full grown tails but the amount of spotting on the plumage varies greatly.

Br.: Sept. 1, Oct. 2, Nov. 7, Dec. 1.

Ref.: 16, 18, 32.

Pogonocichla stellata (Vieillot)

Starred Robin

Port. Vumba: ♂ on c/2 26 Nov. 1913, c/3 26 Nov. 1913 (Transvaal Museum), c/1 28 Nov. 1913 (a replacement for the c/2 taken on 26 Nov. (16, p. 195). Swynnerton (1908a) mentions fledged young in July and shot a ♀ about to lay on 10 Aug. There is a ♀ juv. from the Chimanimani in the N.M.B. taken on 5 Feb. 1958 and the species has also been collected on the Port. Chimanimani (12).

Br.: Aug. 1, Sept. 1, Nov. 5, Jan. 1.

Ref.: 1, 16, 18, 25, 27, 32.

Pogonocichla swynnertoni (Shelley)

Swynnerton's Robin

Sheppard knew the species in the Portuguese Vumba (16, p. 198). In the N.M.B. there is a ♀ juv. from the Vumba taken on 7 Jan. 1949. A. Williams found a nest of this species parasitized by the Red-chested Cuckoo *Cuculus solitarius* in Stapleford Forest on 8 Jan. 1963.

Br.: Oct. 2, Nov. 7, Dec. 6, Jan. 1.

Ref.: 25, 27, 32.

Erythropgia leucophrys (Vieillot)

White-browed Scrub Robin

Port. Vumba: ♀ on c/2 18 Nov. 1913, c/2 22 Nov. 1913 (Durban Museum), ♀ 25 Nov. 1913, c/2 11 Dec. 1913, ♀ 5 July 1914, c/3 25 Dec. 1915. (Transvaal Museum.) The nest and habitat are described by Sheppard (16, p. 188).

Sylviidae

Phylloscopus ruficapilla (Sundevall)

Yellow-throated Forest Warbler

The only breeding record for the frontier zone is a juv. ♂ with a short tail taken in the Port. Chimanimani on 9 Feb. 1958 and now in the N.M.B. (12).

Bradypterus barratti Sharpe

Scrub Warbler

Port. Vumba: ♂ 28 Aug. 1913, unsexed 30 Aug. 1913. Collected on the Port. Chimanimani (12). The only breeding record is the oviduct eggs in November mentioned in (22).

Sphenoeacus afer (Gmelin)

Grass Bird

Port. Vumba: (a) specimens ♀ 10 April 1913, ♀ ♀ 18 October 1913, ♀ 19 Nov. 1913, (b) eggs c/2 15 Jan. 1913 (7), c/3 12 Feb. 1913, c/1 19 Feb. 1913, c/2 4. April 1913, c/2 16 April 1913 (16, p. 225), c/3 8 Oct. 1913 (Transvaal Museum), c/2 21 Jan. 1914, c/2 28 Oct.

1914, c/2 16 Oct. ? (16, p. 225). It would appear that this species also bred late in 1913 with the prolonged rains. C. J. Vernon observed parents carrying food on 5 Jan. 1963 at the Vumba. Collected on the Port. Chimanimani (12).

Br.: Oct. 5, Nov. 2, Dec. 1, Jan. 3, Feb. 3, March 1, April 1.

Ref.: 7, 16, 32.

Chloropeta natalensis A. Smith

African Yellow Warbler

Port. Vumba: ♀ on c/2 25 Jan. 1913, ♀ on c/2 6 March 1913 (16, p. 119), ♂ 10 Oct. 1913, ♀ on c/2 17 Oct. 1913 (16, p. 119), c/2 21 Nov. 1913 (7).

Apalis thoracica (Shaw & Nodder)

Bar-throated Apalis

Port. Vumba: (a) specimens ♀ 12 May 1912, unsexed 3 March 1913, ♀♀ 22 March 1913, ♀ 31 March 1913 (Durban Museum), unsexed 29 April 1913, ♀ on c/2 26 Oct. 1913, ♀ 10 July 1914 (b) eggs c/3 3 March 1913 (Transvaal Museum), eggs 22 March 1913, c/2 and c/3 31 March 1913, eggs 6 Nov. 1913, c/2 12 April 1913 (Durban Museum), c/3 16 Oct. 1913 (7), c/3 22 Nov. 1913, eggs 20 Dec. 1913, c/4 7 Dec. 1915. Of these clutches two have a white ground and three a blue ground.

The March and April records are a significant addition to the length of the breeding season given in (3). Collected on the Port. Chimanimani (12).

Br.: Aug. 1, Oct. 5, Nov. 8, Dec. 5, Jan. 3, Feb. 1, March 3, April. 4.

Ref.: 7, 16, 18, 29, 32.

Apalis chirindensis Shelley

Melsetter Apalis

Nothing appears to be known of its breeding in the area. Literature records based on Priest (16, p. 230) are referable to *Prinia robertsi* as Benson (1946) pointed out. Collected on the Port. Chimanimani (12).

Cisticola lais (Finsch & Hartlaub)

Wailing Cisticola

Port. Vumba: ♀ 12 March 1913, ♀ 28 Nov. 1913, ♂♀ 28 May 1914 (♂ in Durban Museum), ♀ 4 July 1914. C. J. Vernon has observed nest building at Umtali on 9 Dec. 1962 and parents feeding fledged young on 14 Jan. 1961 at Inyanga. The two February breeding records in (3) are a misunderstanding of (12) and are in fact referable to January. As hinted at in (12) this *Cisticola* has an earlier breeding season than any of its congeners in Rhodesia.

Br.: Oct. 1, Nov. 1, Dec. 8, Jan. 5.

Ref.: 1, 12, 32.

Cisticola chiniana (A. Smith)

Rattling Cisticola

Port. Vumba: c/3 2 Feb. 1913 (Durban Museum), c/3 21 Oct. 1913, (both clutches plain blue), c/3 12 March ? (16, p. 263).

Cisticola cantans (Heuglin)

Singing Cisticola

Port. Vumba: (a) specimens (all ♀♀) 18 Jan. 1913, 25 Jan. 1913, 31 Jan. 1913, 1 Feb. 1913 on c/4, 2 Feb. 1913 on c/2, 2 Feb. 1913 on c/3, 17 Feb. 1913 on c/2, 30 March 1913, 28 April 1913, 10 July 1914, 17 Dec. 1914, ♂ 3 July 1914 (Durban Museum), (b) eggs c/3 2 Feb. 1913 (7), c/4 20 Feb. 1913, c/3 3 March 1913, c/1 4 March 1913, c/3 4 March 1913, c/3 14 March 1913, c/3 14 March 1913, c/3 18 March 1913 (Transvaal Museum), c/3 19 March 1913, eggs 26 March 1913, c/3 3 April 1913 (Transvaal Museum), eggs 12 April 1913, eggs 16 April 1913, c/2 21 April 1913, c/2 21 April 1913, c/4 1 May 1913, c/4 6 May 1913, eggs 15 Nov. 1913, c/2 28 Nov. 1913, c/2 28 Nov. 1913, c/3 24 Dec. 1913, eggs 17 Nov. 1914, c/2 1 Feb. ? (16, p. 259). Of these clutches only two have a blue ground and the rest have white grounds. The April and May as well as most of the March records are due to the continuation of the rains that fell in 1913 right up till June. Priest (16, p. 258-260) has hopelessly muddled this species which he called *C. cinerascens* after the manner of his time with *C. rufilata* a largely dry country species which does not occur in the Vumba. Consequently his quotations from Sheppard refer to *C. cantans* of which Sheppard obtained so much material.

Br.: Nov. 6, Dec. 12, Jan. 11, Feb. 6, March 9, April 6.

Ref.: 1, 16, 25, 29, 32.

Cisticola brachyptera (Sharpe)

Short-winged Cisticola

Sheppard took c/4 at Umtali on 18 Nov. 1927, and the eggs are now in the Transvaal Museum. This is the only Rhodesian breeding record.

Prinia robertsi Benson

Forest Prinia

Port. Vumba: ♀ 4 Feb. 1913 on c/2 (Durban Museum). This specimen and nest was discussed by Priest (16, p. 230) under the heading *Apalis chirindensis*. Benson (1946) who had not seen the specimen but only read of the nest and eggs suggested the true identity. His suggestion is completely supported by the material. Like the type specimen this example has eight tail feathers.

Collected on the Port. Chimanmani (12). D. C. H. Plowes (in litt.) states that at the Mtarazi Falls on 3 Nov. 1963 he found two newly built nests and one with eggs about to hatch and another similar clutch on 10 Nov. 1963. C. J. Vernon observed fledged young being fed at Inyanga on 13 Jan. 1961.

Br.: Oct. 7, Nov. 1, Dec. 3, Jan. 3.

Ref.: 1, 16, 32.

Prinia subflava (Gmelin)

Tawny flanked Prinia

Port. Vumba: (a) specimens ♀ 1 Feb. 1913 on c/2, ♂ 2 Feb. 1913, ♀ 12 March 1913 on c/4, ♀ 19 March 1913, unsexed 26 July 1913 on c/2, ♂ 3 July 1914, ♀ 10 July 1914, eggs 23 March 1912, c/3 1 Feb. 1913, c/3 1 Feb. 1913, c/1 2 Feb. 1913 (7), c/4 2 Feb. 1913

(Durban Museum), c/3 23 Feb. 1913, eggs 23 Feb. 1913, eggs 2 March 1913, eggs 19 March 1913, eggs 24 March 1913, eggs 24 March 1913, eggs 11 July 1914. c/2 26 July 1913, c/2 12 Jan. 1914, c/3 12 Jan. 1914, c/1 18 Dec. 1914, c/3 18 Dec. 1914. For field notes see (16, p. 287). The two July records which are quite out of season (3) are doubtless due to the extended rains of 1913. Of the clutches four have a white ground, two have green, one has blue and four have olive.

Muscicapidae

Muscicapa adusta (Boie)

Dusky Flycatcher

Port. Vumba: unsexed 24 Aug. 1913, ♂ 18 Nov. 1913 on c/2 (the eggs are in the Durban Museum), c/2 16 Nov. 1914, c/2 22 Nov. ? (16, p. 101). At the Vumba on 9 Oct. 1957 I watched a Dusky Flycatcher brooding in a nest on a horizontal branch of a Jacaranda, a very early record, and at the same place on 11 Nov. 1963 I observed a fledged youngster with its parent.

Br.: Oct. 1, Nov. 5, Dec. 3, Jan. 1.

Ref.: 16, 32.

Bradornis pallidus (v. Muller)

Mouse-coloured Flycatcher

Priest's quotation (16, p. 111) from Sheppard refers to his material from Mzimbiti near Beira.

Batis capensis (Linnaeus)

Cape Batis

Port. Vumba: ♀ (whereabouts unknown) on c/2 24 Oct. 1913 (16, p. 123), c/2 21 Nov. 1914 (Salisbury Museum). Collected on the Port. Chimanimani (12). The records by P. Cooke from Khami dam north-west of Bulawayo are from an unsuitable habitat where the species has been found by nobody else. Despite their previous inclusion in (3) I now reject them. The species occurs south of Bulawayo in the Matopos in *Brachystegia* among the granite kopjes (22).

Br.: Oct. 5, Nov. 4, Dec. 2.

Ref.: 16, 18, 25, 27, 29, 32.

Batis soror Reichenow

Mozambique Batis

Port. Vumba: c/2 4 Nov. 1914 (Durban Museum).

Trochocercus albonotatus Sharpe

White-tailed Crested Flycatcher

Port. Vumba: ♂♀ on c/2 20 Nov. 1913 (16, p. 134), c/2 28 Nov. 1914 (Salisbury Museum). Collected on Port. Chimanimani (12). In N.M.B. there is a ♀ juv. with a very

short tail taken on the Pungwe River on 19 Jan. 1951. A nest just receiving the finishing touches was found by C. J. Vernon at the Vumba on 4 Jan. 1965 and on 30 Jan. 1963 he found another nest being built.

Br.: Oct. 1, Nov. 4, Dec. 3, Jan. 2.

Ref.: 1, 16, 18, 25, 32.

Motacillidae

Anthus novaezeelandiae Gmelin

Tawny Pipit

Port. Vumba: ♂♀ on a nest containing eggs and one youngster on 18 Nov. 1913 (16, p. 47).

Laniidae

Lanius collaris Linnaeus

Fiscal Shrike

Port. Vumba: ♀ on c/1 18 Oct. 1913, c/4 29 Nov. 1913 (Durban Museum), ♂ 3 July 1914, ♂ 18 July 1914, c/4 22 Oct. 1914, c/4 31 Oct. ? (17, p. 49).

Laniarius aethiopicus (Gmelin)

Tropical Boubou Shrike

Port. Vumba: (a) specimens ♀ 18 July 1913, ♂ on c/2 20 Nov. 1913, ♀ 10 Dec. 1913, ♂ 14 Aug. 1914 (b) eggs c/3 20 Nov. 1913 (Transvaal Museum), c/1 20 Dec. 1913, c/2 30 Oct. 1914 (Transvaal Museum).

Dryoscopus cubla (Shaw)

Southern Puffback Shrike

Port. Vumba: c/2 19 March 1913 (Durban Museum).

Tchagra senegala (Linnaeus)

Black-crowned Tchagra

Port. Vumba: ♂ on c/3 26 March 1913 (17, p. 77), ♀ on c/1 24 Sept. 1913, eggs 20 Nov. 1913, c/2 22 Nov. 1913, c/2 28 Nov. 1913, c/2 22 Nov. 1914.

Tchagra minuta (Hartlaub)

Marsh Tchagra

Port. Vumba: ♂♀ on c/1 19 March 1913 (7, 17, p. 78), ♀ 18 Jan. 1914, c/2 15 Feb. ? (Salisbury). The egg and the ♀ collected on 19 March 1913 are in the Durban Museum and the ♀ is the type of *T.m. remota* Clancey (1959). As noted in the introduction the type locality is Vumba, Mozambique.

Br.: Nov. 3, Dec. 1, Feb. 1, March 1.

Ref.: 7, 17, 32.

Malaconotus olivaceus (Shaw)

Olive Bush Shrike

Port. Vumba: ♂ 1 Dec. 1912 (grey-headed phase), unsexed imm. 25 Aug. 1913, c/2 14 Nov. 1913 (Transvaal Museum, 17 p. 85), c/2 14 Dec. 1913 (17, p. 85), ♀ 28 May 1914. Collected on the Port. Chimanmani (12). In the N.M.B. there are a number of juveniles: ♂ 10 July 1952 Himalaya, ♂ 30 Dec. 1948 Vumba, ♀♀ 8 Feb. 1952 Chimanmani ♂ 9 May 1950 Melsetter.

Br.: Oct. 4, Nov. 3, Dec. 4, Feb. 1, April 1.

Ref.: 1, 17, 27.

Malaconotus nigrifrons (Reichenow)

Black-fronted Bush Shrike

Collected on the Port. Chimanmani (12). There are two juveniles with short tails in the N.M.B. taken at Holdenby on 27 and 30 Dec. 1957. A bird was seen carrying building material at the Vumba on 4 Jan. 1965.

Malaconotus viridis (Vieillot)

Gorgeous Bush Shrike

Port. Vumba: a label-less specimen in Sheppard's style attributed to him in the Natal Museum register. There are two juveniles in the N.M.B.: ♀ shortish tail 12 Nov. 1955 Haroni Lusitu junction, ♀ 28 May 1927 Mt. Selinda. Swynnerton (1907a, 1908a) is the only person to have found nests: Nov. and Dec.

Sturnidae

Onychognathus morio (Linnaeus)

African Red-winged Starling

Port. Vumba: ♂ 16 June 1913, ♂ juv. 11 July 1913.

Nectariniidae

Nectarinia famosa (Linnaeus)

Malachite Sunbird

Field notes by Sheppard in Priest (1936, p. 172-3). I reject breeding records of this species from Plumtree included in (3) since there is no montane habitat anywhere near there.

Br.: Aug. 1, Sept. 1, Oct. 2, Nov. 1, Dec. 1, Jan. 2, Feb. 2.

Ref.: 1, 18, 32.

Nectarinia kilimensis Shelley

Bronze Sunbird

C. J. Vernon observed this species building a nest at Inyanga on 30 Aug. 1961 and an occupied nest was found there on 16 Sept. 1954.

Br.: Sept. 1, Oct. 2, Nov. 1, Feb. 2, March 1, April 1.

Ref.: 27, 32.

Nectarinia venusta (Shaw & Nodder)

Yellow-bellied Sunbird

Port. Vumba: (a) specimens ♂ 10 May 1912, ♂♀ 3 March 1913, ♀ on c/2 1 May 1913. (b) eggs c/1 12 April 1913, c/2 17 April 1913, c/2 4 May 1913 (Transvaal Museum), c/2 13 June 1913, c/2 18 June 1913 (7), c/1 18 July 1913, c/2 18 July 1913 (Transvaal Museum), c/2 12 Aug. 1913, c/2 5 Sept. 1913 (Carlisle collection N.M.B.). Field notes in (17 p. 181-3). Collected on the Port. Chimanimani (12).

Br.: March 7, April 4, May 1, June 2, July 2, Aug. 3, Sept. 2, Oct. 1.

Ref.: 7, 17, 27, 32.

Nectarinia chalybea (Linnaeus)

Lesser Double-collared Sunbird

Port. Vumba: c/2 19 Nov. 1913, ♂ 4 July 1914, ♂ 5 July 1914.

Nectarinia amethystina (Shaw)

Black Sunbird

Port. Vumba: ♂ 31 May 1913, c/2 4 Dec. 1913 (7, 17 p. 197).

Nectarinia olivacea (A. Smith)

Olive Sunbird

Port. Vumba: ♀ on c/2 on 27 Nov. 1913 (c/1 when first found on 22 Nov.) (17, p. 205). Collected on Port. Chimanimani (12).

Br.: Oct. 3, Nov. 3, Dec. 1, Jan. 2, March 1.

Ref.: 17, 18, 25, 27, 29, 32.

Anthreptes collaris (Vieillot)

Collared Sunbird

Port. Vumba: c/3 11 May 1913.

Of the Rhodesian nest records referred to in (3) Priest's record from the Zambezi is alone acceptable. The remainder by I. C. Cannell, P. Cooke and G. R. Thomson from Khami (near Bulawayo) and Plumtree I reject since the species has not been collected on the Matabeleland plateau and is not likely to occur there. The Collared Sunbird is an inhabitant of evergreen forest up to at least 5000 ft. and of evergreen thickets along big rivers (22). Neither habitat occurs in Matabeleland.

Since (3) was drafted D. C. H. Plowes has recorded c/2 at Melsetter on 12 Jan. 1961. Two family parties with fledged young were seen at the Vumba on 11 Nov. 1963.

Br.: Sept. 1, Oct. 1, Jan. 1, May 1.

Anthreptes longuemarei (Lesson)

Violet-backed Sunbird

Port. Vumba: ♂ 2 June 1913.

Zosteropidae

Zosterops senegalensis Bonaparte

Yellow White-eye

Port. Vumba: ♀ 26 June 1914.

Collected on the Port. Chimanamani (12).

Ploceidae

Ploceus bicolor Vieillot

Forest Weaver

In the N.M.B. there are ♂♀ juv. taken at Holdenby on 26 Oct. 1960 with short bills and very short tails and a ♂ taken at the same place on 25 Dec. 1957 with a short tail. Other juveniles there with full tails are—

<i>sex</i>	<i>date</i>	<i>place</i>
♂	13 Nov. 1959	Holdenby
♀	15 Dec. 1935	Selinda
♂	14 Jan. 1950	Selinda
♂	14 Feb. 1958	Chimanamani

A ♂ was building at the Vumba on 10 Nov. 1963: before starting to weave he would give several yelp-like calls. The ♀ accompanied him while he collected building material and then sat quietly watching while he wove it. Fledged young were being fed at the Vumba on 2 Jan. 1965.

Br.: Sept. 3, Oct. 1, Nov. 4, Dec. 2.

Ref.: 18, 32.

Ploceus ocularis A. Smith

Spectacled Weaver

Port. Vumba: (a) specimens ♀ 14 March 1913, ♂ 19 March 1913, ♂ 7 April 1913, ♀ 20 Oct. 1913 on c/2 with a white ground, (b) eggs (pale blue ground unless otherwise stated), c/2 2 Feb. 1913, c/2 10 March 1913, c/3 17 March, 1913, c/3 18 Nov. 1913, c/2 6 Jan. 1914, eggs 3 Nov. 1914, c/2 17 Nov. 1914 (white ground). The allusion to eggs found in April (17, p. 257) is to a clutch of *P. xanthops* found on 21 April 1913 which Sheppard mislabelled.

Br.: Oct. 4, Nov. 9, Dec. 6, Jan. 2, Feb. 4, March 2.

Ref.: 32.

Ploceus xanthops (Hartlaub)

Large Golden Weaver

Port. Vumba: (a) specimens ♀ 7 March 1913, ♀ 10 Feb. 1914 on c/2 with a blue ground, ♂ 6 April 1914; (b) eggs eggs 2 Feb. 1913, c/2 7 March 1913 (Transvaal Museum), eggs 31 March 1913, c/2 4 April 1913 (white ground), c/1 21 April 1913 (white ground), eggs 1 May 1913, eggs 10 Oct. 1913, c/2 16 Oct. 1913 (plain white), c/2 7 April 1914 (plain white), c/2 7 April 1914 (blue ground), c/3 7 April 1914 (white ground).

Amblyospiza albifrons (Vigors)

Thick-billed Weaver

Port. Vumba: c/3 4 March 1913 (17 p. 265).

Br.: Dec. 21, Jan. 5, Feb. 4, March 2.

Ref.: 17, 32.

Euplectes ardens (Boddaert)

Red-collared Widow-Bird

Port. Vumba: (a) specimens ♂ 8 March 1913, ♀ 15 March 1913 on c/2 (17 p. 294-5), ♂ 2 April 1913, ♂ 2 May 1913, ♂♂ 5 May 1913; (b) eggs c/3 2 Feb. 1913 (17 p. 294-5), eggs 15 Feb. 1913, c/2 3 March 1913, c/4 9 March 1913, c/2 16 April 1913, eggs 3 May 1913, c/3 3 May 1913, c/3 6 May 1913, c/2 7 May 1913, c/2 9 May 1913, c/1 12 May 1913, four c/2 27 May 1913, c/2 3 June 1913, c/3 23 April 1914. From the material point of view this species was most influenced by the late rains of 1913. Otherwise there are no Rhodesian breeding records in May and no adult ♂♂ in nuptial plumage taken in May: see also Brooke (in press). The small size (c/2) of the clutches from the middle of May onwards is probably significant: late clutches in many species tend to be below average size.

Br.: Dec. 1, Jan. 13, Feb. 14, March 5, April 6, May 9.

Ref.: 17, 32.

Estrildidae

Lonchura bicolor (Fraser)

Red-backed Mannikin

A bird carrying building material was seen at the Vumba on 4 Jan. 1965.

Br.: Jan. 1, April 1.

Ref.: 32.

Cryptospiza reichenovii (Hartlaub)

Nyasa Crimsonwing

Port. Vumba:

sex	date	wing length
♂	31 March 1913	54 mm.
♂	30 Aug. 1913	55 mm.
♂	9 Dec. 1913	58 mm.
♀	10 July 1914	55 mm.

These ♂♂ hardly support the suggestion in (23) that Malawi birds tend to have shorter wings than Rhodesian ones. However the ♀♀ seem significantly larger.

Br.: Oct. 1.

Ref.: 32.

Pirenestes minor Shelley

Nyasa Seedcracker

A nest with three fresh eggs was found at the Vumba on 4 Jan 1965. The parents were seen twice: the ♂ had crimson on the whole front of the head and well down the throat.

The nest was a typical estrildine ball of dry grass some 10 or 12 feet up in a forest sapling. It was however completely enclosed in an envelope of green fresh moss. Two other similar nests in saplings were found nearby, one taken over by rodents and one from which the young had fairly recently fledged. The subhabitat was a mass of saplings and creepers where a little group of forest trees had been removed (by death or cutting?) some years ago. C. J. Vernon who was with me tells me that the nests and habitat are very similar to those of *P. ostrinus* in the Mwinilunga district of Zambia.

Hypargos nitidula (Hartlaub)

Green Twinspot

The only evidence of breeding in the frontier zone is an juv. ♀ with a short tail taken at Umtali on 1 Dec. 1962 and now in the Umtali Museum.

Lagonosticta rubricata (Lichtenstein)

African Ruddy Waxbill

Port. Vumba: ♀ on c/2 5 Feb. 1913 (17 p. 323-4), ♀ on c/3 21 Feb. 1913, ♀ on c/4 21 Feb. 1913. (Transvaal Museum) c/3 25 Feb. 1913 (7), ♂ 18 March 1913, c/3 23 March 1913 (Carlisle collection, N.M.B.), ♀ 24 March 1913, ♀ 15 June 1913.

Br.: Jan. 1, Feb. 4, Mar. 1.

Ref.: 7, 17, 32.

Estrilda astrild (Linnaeus)

Common Waxbill

Port. Vumba: ♀ on c/4 20 Feb. 1913 (17 p. 335), ♀ on eggs 23 Feb. 1913, ♂ on nest 5 April 1913, ♂ on eggs 7 April 1913, c/2 13 April 1913.

Estrilda caerulescens (Vieillot)

Grey Waxbill

Br.: Jan. 1, March 3 (all by A. Williams at Mt. Selinda).

Ref.: 32.

Coccygia melanotis (Temminck)

Sweet Waxbill

Port. Vumba: c/5 25 Feb. 1913 (Durban Museum), c/5 26 March 1913 (7), ♀ on c/5 19 April 1913, ♂ 24 May 1914. Collected on the Port. Chimanmani (12). All the specimens are referable to *C. m. kilimensis*. Building at the Vumba on 3 and 4 Jan. 1965. Sheppard's work brings the frontier breeding season into line with that of Malawi (3).

Br.: Dec. 2, Jan. 1, Feb. 1, March 1, April 1.

Ref.: 7, 32.

Fringillidae

Serinus canicollis (Swainson)

Cape Canary

There are a number of juveniles in the N.M.B.: a ♀ taken on 12 Jan. 1951 at Inyanga and an interesting series of 2 ♂♂ and 4 ♀♀ taken on 21 Feb. 1954 on Mt. Inyangani. The 2 ♂♂ show some moulting into adult dress. At the Vumba on 10 Nov. 1963, one was

watched building in a Monkey Puzzle tree in the hotel garden: among the material used were many pieces from a decrepit doormat.

Br.: Oct. 3, Nov. 6, Dec. 2, Feb. 1.

Ref.: 18, 32.

Serinus sulphuratus (Linnaeus)

Bully Seedeater

Port. Vumba: c/3 16 May 1912, unsexed 5 Feb. 1913, c/3 16 March ? (17 p. 381), c/2 21 May 1913 (7), c/2 12 Sept. 1914.

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